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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/051,860	01/16/2002	Eric Bergman	263/169 P01-0007	1640

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EXAMINER

STINSON, FRANKIE L

ART UNIT PAPER NUMBER

1746

DATE MAILED: 12/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/051,860

Applicant(s)

BERGMAN, ERIC

Examiner

FRANKIE L. STINSON

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-18 and 29-32 is/are pending in the application.
- 4a) Of the above claim(s) 4,5,29 and 30 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-18 is/are allowed.
- 6) ☒ Claim(s) 1, 6-15, 31 and 32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/8/04
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 6-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima et al. in view of Fukazawa, Miki et al. or Matsukawa et al. (U. S. Pat. No. 5,518,542).

Re claim 1, Nakajima is cited disclosing is cited disclosing an apparatus for processing a workpiece (10) comprising: a liquid supply source (24); one or more liquid outlets (end of pipe 21) disposed to apply liquid onto the workpiece; a liquid flow line (unnumbered) extending between the liquid supply source and the one or more liquid outlets for carrying liquid to the liquid outlets, at least one heater (41) for heating the liquid, an ozone gas supply system (as at 28) which provides ozone gas around the workpiece that differs from the claim only in the recitation of the sonic energy source for introducing sonic energy to the workpiece and the heating of the liquid before being applied to the workpiece. Fukazawa (as at 7), Matsukawa (as at 90) and Miki (as at (605) each disclose the application of sonic energy to a workpiece. It therefore would have been obvious to one having ordinary skill in the art to modify the device of Nakajima, to include the application of sonic energy to the workpiece as taught by Fukazawa, Miki or Matsukawa, for the purpose of enhancing the cleaning process and since Miki for example, suggests that by "applying high frequency sound waves" it is possible to "increase the washing effects" and to "shorten washing time" (see Miki col.

6, line 64-67). As for the heating the liquid before the same is applied to the workpiece, Matsukawa is also cited disclosing a heater (80) for heating the liquid before the same is applied. It therefore would have been obvious to modify the heating means (41) in Nakajima, to be as taught by Matsukawa, since this is merely a substitution of equivalents (see **MPEP 2144.06 SUBSTITUTING EQUIVALENTS KNOWN FOR THE SAME PURPOSE**). Re claim 6, Matsukawa discloses the heated reservoir (77). Re claim 7, Nakajima, Miki and Matsukawa disclose the liquid as claimed. Re claim 8, Nakajima, Matsukawa and Miki disclose the ozone supply as claimed. Re claim 9, Miki discloses the recirculation (see fig. 6d). Re claim 10, Nakajima discloses the rotor (25). Re claim 11, Miki, Fukazawa and Matsukawa each disclose the spraying of the liquid through nozzles. To modify Nakajima in view thereof, would have been obvious to one having ordinary skill in the art since this is considered a mere substitution of equivalents. Re claim 12, Miki discloses (see col. 7, lines 5-8 and col. 8, lines 15-22) that it is necessary to form a film on the surface of the workpiece, where the thickness of the film must be set to "optimal". It is therefore understood by the examiner that means for controlling the thickness is inherently provided. Therefore it would have been obvious to one having ordinary skill in the art to modify the device of Nakajima, to have a controlled film, as taught by Miki, for the purpose of enhancing the cleaning process. Re claim 13, Nakajima and Miki disclose flow control means as claimed. Re claim 14, Matsukawa, Fukazawa and Miki disclose the spray nozzles. Re claim 15, to have thickness controlling means being that of a rotor, is deemed to be an obvious matter of

design. To employ one means for controlling film thickness versus another is deemed to be an obvious substitution of equivalents (see MPEP 2144.06).

3. Claims 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over either European Patent Office 548,596 (EPO'596) or European Patent Office 782,177 (EPO'177) in view of Dussault et al. or Bran (U. S. Pat. No. 6,295,999)

Re claims 31 and 32, EPO'596 and EPO'177 are each cited disclosing an apparatus for cleaning a workpiece, comprising: a process chamber (1 in EPO'596; 10 in EPO'177), a workpiece holder (5 in EPO'596; 14 in EPO'177) within the process chamber an ozone supply system (6, 7 in EPO'596; 12 in EPO'177) for delivering ozone into the process chamber and a liquid supply source (8, 9 in EPO'596; 11 in EPO'177) for delivering a liquid onto the workpiece that differs from the claim only in the recitation of the sonic energy source on the workpiece holder for introducing sonic energy directly to a workpiece held on the workpiece holder or in mechanical contact with the liquid layer on the workpiece. Dussault and Bran are both cited disclosing in an apparatus for treating workpieces, the arrangement of treating the surface of a workpiece where there is provided a sonic energy source (50, 52 in Dussault and 104 in Bran) on the workpiece holder for introducing sonic energy directly to a workpiece held on the workpiece holder, where there is mechanical contact. It therefore would have been obvious to one having ordinary skill in the art to modify the device of either EPO'596 or EPO'177, to include a sonic energy source as taught by either Dussault or Bran, for the purpose of enhancing the treating process and for ensuring uniformity in treatment throughout the surface of the workpiece as is common in the art.

4. Claims 16-18 are allowed.
5. Applicant's arguments with respect to claims 1, 6-18, 31 and 32 have been considered but are moot in view of the new ground(s) of rejection.
6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **FRANKIE L. STINSON** whose telephone number is (703) 308-0661. The examiner can normally be reached on M-F from 5:30 am to 2:30 and some Saturdays from approximately 7:30 am to 1:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr, can be reached on (571) 272-1700. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Fls


FRANKIE L. STINSON
Primary Examiner
GROUP ART UNIT 1746